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| 10/614,119 | 07/08/2003 | Chien-Ming Lin | 3897.0107P | 6058 |
| 2292 | 7590 | 10/21/2005 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | SHAH, MANISH S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2853 | |

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,119

Applicant(s)

LIN ET AL.

Examiner

Manish S. Shah

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) 10,11 and 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 16 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2 & 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Stathem et al. (# US 6139137).

Stathem et al. disclose:

- A back pressure regulator for ink-jet pen, comprising an orifice formed as a passage in the wall of the ink-jet pen for allowing an ambient air to bubble into the pen (element: 78, figure: 2, 10);
- A recess formed on the inner side of the wall, and capable of communicate with the ambient air via the orifice (figure: 3-5, 11); and
- A cover element (element: 70, figure: 2-11) positioning above the recess, having ink supply channel for providing a shortest path to supply the ink to the recess in a high efficient way, and an opening within the area of the recess for allowing the air bubbles enter into the pen.
- The recess having at least two grooves which starts from the end of the orifice and extending to different directions on the wall of the ink-jet pen (figure: 3-5, 11).

- The recess having bottom surface varying in depth thereof for defining a varying gap between the cover element and the bottom surface (figure: 3-6).

- The gap having a smallest portion near the orifice and a larger portion increases as the distance from the orifice increases, and thereby providing a stronger adhesive force to the ink around the orifice (figure: 3-6, 11).

2. Claims 1-2, 5-9 & 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibson. (# US 5992992).

Gibson disclose:

- a back pressure regulator for ink-jet pen, comprising an orifice formed as a passage in the wall of the ink-jet pen for allowing an ambient air to bubble into the pen (element: 17, figure: 1-4);

- a recess formed on the inner side of the wall, and capable of communicate with the ambient air via the orifice (figure: 2-4); and

- a cover element (valve) (element: 23, figure: 2-4) positioning above the recess, having ink supply channel for providing a shortest path to supply the ink to the recess in a high efficient way, and an opening within the area of the recess for allowing the air bubbles enter into the pen.

- The recess having at least two grooves which starts from the end of the orifice and extending to different directions on the wall of the ink-jet pen (figure: 2-4).

- The recess having bottom surface varying in depth thereof for defining a varying gap between the cover element and the bottom surface (figure: 2-4).

- The gap having a smallest portion near the orifice and a larger portion increases as the distance from the orifice increases, and thereby providing a stronger adhesive force to the ink around the orifice (figure: 2-4).

- The cover element (valve body) is made from plastic (element: 23, figure: 2-4; column: 3, line: 32-35) and includes a spiral wire (spring coil) providing the ink supply channel (element: 25, figure: 2-4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stathem et al. (# US 6139137) in view of Gibson (# US 5992992).

Stathem et al. discloses all limitation of the back pressure regulator except that the cover element is made from metal, plastic and includes a spiral wire providing the ink supply channel.

Gibson teaches that to keep the ink from leaking through the nozzles, prevent air bubbles from entering the reservoir and enables almost complete usage of the ink, tower chamber has the cover element (valve body) is made from plastic (element: 23,

figure: 2-4; column: 3, line: 32-35) and includes a spiral wire (spring coil) providing the ink supply channel (element: 25, figure: 2-4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the back pressure regulator of Stathem et al. by the aforementioned teaching of Gibson in order to keep the ink from leaking through the nozzles, prevent air bubbles from entering the reservoir and enables almost complete usage of the ink.

Allowable Subject Matter

4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:


(1) The recess having four grooves which starts from the end of the orifice and extending to different directions on the wall of the ink-jet pen to form as a "+" shape.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
10/19/05